Gerotor Pump Design

"Advanced Tribology" is the proceedings of the 5th China International Symposium on Tribology (held every four years) and the 1st International Tribology Symposium of IFToMM, held in Beijing 24th-27th September 2008. It contains seven parts: lubrication; friction and wear; micro/nano-tribology; tribology of coatings, surface and interface; biotribology; tribo-chemistry; industry tribology. The book reflects the recent progress in the fields such as lubrication, friction and wear, coatings, and precision manufacture etc. in the world. The book is intended for researchers, engineers and graduate students in the field of tribology, lubrication, mechanical production and industrial design. The editors Jianbin Luo, Yonggang Meng, Tianmin Shao and Qian Zhao are all the professors at the State Key Lab of Tribology, Tsinghua University, Beijing.

Machine Drawing is divided into three parts. Part I deals with the basic principles of technical drawing, dimensioning, limits, fits and tolerances. Part II provides details of how to draw and put machine components together for an assembly drawing. Part III contains problems on assembly drawings taken from the diverse fields of mechanical, production, automobile and marine engineering.

This book offers a timely yet comprehensive snapshot of innovative research and developments at the interface between manufacturing, materials and mechanical engineering, and quality assurance. It covers a wide range of manufacturing processes, such as cutting, grinding, assembly, and coatings, including ultrasonic treatment, molding, radial-isostatic compression, ionic-plasma deposition, volumetric vibration treatment, and wear resistance. It also highlights the advantages of augmented reality, RFID technology, reverse engineering, optimization, heat and mass transfer, energy management, quality inspection, and environmental impact. Based on selected papers presented at the Grabchenko's International Conference on Advanced Manufacturing Processes (InterPartner-2020), held in Odessa, Ukraine, on September 8–11, 2020, this book offers a timely overview and extensive information on trends and technologies in production planning, design engineering, advanced materials, machining processes, process engineering, and quality assurance. It is also intended to facilitate communication and collaboration between different groups working on similar topics and offer a bridge between academic and industrial researchers.

This book explores topics at the interface between mechanical and chemical engineering, with a focus on design, simulation, and manufacturing. Covering recent developments in the mechanics of solids and structures; numerical simulation of coupled problems, including wearing, compression, detonation and collision; and chemical process technologies, including ultrasonic technology, capillary rising process, pneumatic classification, membrane electrolysis and absorption processes, it reports on developments in the field of heat and mass transfer, energy-efficient technologies, and industrial ecology. Part of a two-volume set based on the 3rd International Conference on Design, Simulation, Manufacturing: The Innovation Exchange (DSMIE-2020), held on June 9-12, 2020, in Kharkiv, Ukraine, this book provides academics and professionals with extensive information on the latest trends, technologies and challenges in the field as well as practical lessons learned.

Proceedings of CIST2008 & ITS-IFToMM2008

Study and Design of a Micro-trochoidal Gear Pump for High Precision Dosage of Liquids

Advanced Tribology

Design Tools Applied to a Trochoidal Gear Pump

Advanced Manufacturing Processes IV

Advances in Design, Simulation and Manufacturing III

This book reports on topics at the interface between mechanical and chemical engineering, emphasizing design, simulation, and manufacturing. Specifically, it covers recent developments in the mechanics of solids and structures, numerical simulation of coupled problems, including fatigue, fluid behavior, particle movement, pressure distribution. Further, it reports on developments in chemical process technology, heat and mass transfer, energy-efficient technologies, and industrial ecology. Based on the 4th International Conference on Design, Simulation, Manufacturing: The Innovation Exchange (DSMIE-2021), held on June 8-11, 2021, in Lviv, Ukraine, this second volume of a 2-volume set provides academics and professionals with extensive information on trends, technologies, challenges and practice-oriented experience in the above-mentioned areas.

This widely used and acclaimed reference demonstrates how air and oil equipment can be applied to the manual and automatic operation of all types of production machinery.

This book offers a timely snapshot of innovative research and developments at the interface between manufacturing, materials and mechanical engineering, and quality assurance. It covers a wide range of manufacturing processes, such as grinding, boring, milling, turning, woodworking, coatings, including additive manufacturing. It focuses on laser, ultrasonic, and combined laser–ultrasonic hardening treatments, and dispersion hardening. It describes tribology and functional analysis of coatings, separation, purification and filtration processes, as well as ecological recirculation and electrohydraulic activation, highlighting the growing role of digital twins, optimization and lifecycle management methods, and quality inspection processes. It also covers cutting-edge heat and mass transfer technologies and energy management methods. Gathering the best papers presented at the 3rd Grabchenko's International Conference on Advanced Manufacturing Processes (InterPartner-2021), held in Odessa, Ukraine, on September 7–10, 2021, this book offers a timely overview and extensive information on trends and technologies in manufacturing, mechanical, and materials engineering, and quality assurance. It is also intended to facilitate communication and collaboration between different groups working on similar topics and to offer a bridge between academic and industrial researchers.

Drives and Control for Industrial Automation presents the material necessary for an understanding of servo control in automation. Beginning with a macroscopic view of its subject, treating drives and control as parts of a single system, the book then pursues a detailed discussion of the major components of servo control: sensors, controllers and actuators. Throughout, the mechatronic approach – a synergistic integration of the components – is maintained, in keeping with current practice. The authors' holistic approach does not preclude the reader from learning in a step-by-step fashion – each chapter contains material that can be studied separately without compromising understanding. Drives are described in several chapters according to the way they are usually classified in industry, each comprised of its actuators and sensors. The controller is discussed alongside. Topics of recent and current interest – piezoelectricity, digital communications and future trends – are detailed in their own chapters.

Journal of Mechanical Design

Proceedings of the 4th International Conference of IFToMM Italy

101 Harley-Davidson Twin Cam Performance Projects

Drives and Control for Industrial Automation

Proceedings of the 5th International Conference on Design, Simulation, Manufacturing: The Innovation Exchange, DSMIE-2022, June 7–10, 2022, Poznan, Poland – Volume 2: Mechanical and Chemical Engineering

Selected Papers from the 3rd Grabchenko's International Conference on Advanced Manufacturing Processes (InterPartner-2021), September 7-10, 2021, Odessa, Ukraine

A step-by-step guide to rebuilding, restoring, and modifying the famous Mopar 'Six-Pack' engines that appeared in all of Chrysler's muscle cars from 1969 through 1971, as well as the late- model small-blocks and crate performance motors currently offered by Chrysler.

This book presents the proceedings of the 14th International Conference on Computer Aided Engineering, collecting the best papers from the event, which was held in Wrocław, Poland in June 2018. It includes contributions from researchers in computer engineering addressing the applied science and development of the industry and offering up-to-date information on the development of the key technologies in technology transfer. It is divided into the following thematic sections: • parametric and concurrent design, • advanced numerical simulations of physical systems, • integration of CAD/CAE systems for machine design, • presentation of professional CAD and CAE systems, • presentation of the modern methods of machine testing, • presentation of practical CAD/CAM/CAE applications: – designing and manufacturing of machines and technical systems, – durability prediction, repairs and retrofitting of power equipment, – strength and thermodynamic analyses of power equipment, – design and calculation of various types of load-carrying structures, – numerical methods of dimensioning materials handling and long-distance transport equipment (cranes, gantries, automotive, rail, air, space and other special vehicles and earth-moving machinery), • CAE integration problems. The conference and its proceedings offer a major interdisciplinary forum for researchers and engineers in innovative studies and advances in this dynamic field.

Engineers not only need to understand the basics of how fluid power components work, but they must also be able to design these components into systems and analyze or model fluid power systems and circuits. There has long been a need for a comprehensive text on fluid power systems, written from an engineering perspective, which is suitable for an u

This book reports on cutting-edge research and technical achievements in the field of hydraulic drives. The chapters, selected from contributions presented at the International Scientific-Technical Conference on Hydraulic and Pneumatic Drives and Controls, NSHP 2020, held on October 21-23, 2020, in Trzebieszowice, Poland, cover a wide range of topics such as theoretical advances in fluid technology, work machines in mining, construction, marine and manufacturing industry, and practical issues relating to the application and operation of hydraulic drives. Further topics include: safety and environmental issues associated with the use of machines with hydraulic drive, and new materials in design of hydraulic components. A special emphasis is given to new solutions for hydraulic components and systems as well as to the identification of phenomena and processes occurring during the operation of hydraulic and pneumatic systems.

Design and Development of Heavy Duty Diesel Engines

Mopar Small-Blocks

Power Transmission and Motion Control: PTMC 2002

The Log

ICICA 2015

The Hydraulic Handbook

"Theory and practical content that fulfills the requirements for the Master Level ASE Foundation Automotive Technology program accreditation. Designed primarily for post-secondary community college, apprenticeship, and private college automotive technology programs. Meets the ASE Education Foundation Accreditation standards. Dovetails with CDX Online learning management system, including over 1,000 videos and interactive animations. Part of a complete training curriculum"--

This book offers a timely snapshot of innovative research and developments at the interface between manufacturing, materials and mechanical engineering, and quality assurance. It covers various manufacturing processes, such as grinding, boring, milling, broaching, coatings, including additive manufacturing. It focuses on cutting, abrasive, stamping-drawing processes, shot peening, and complex treatment. It describes temperature distribution, twisting deformation, defect formation process, failure analysis, as well as the convective heat exchange and non-uniform nanocapillary fluid cooling, highlighting the growing role of quality control, integrated management systems, and economic efficiency evaluation. It also covers vibration damping, dynamic behavior, failure probability, and strength performance methods for aviation, heterogeneous, permeable porous, and other types of materials. Gathering the best papers presented at the 4th Grabchenko's International Conference on Advanced Manufacturing Processes (InterPartner-2022), held in Odessa, Ukraine, on September 6–9, 2022, this book offers a timely overview and extensive information on trends and technologies in manufacturing, mechanical, and materials engineering, and quality assurance. It is also intended to facilitate communication and collaboration between different groups working on similar topics and to offer a bridge between academic and industrial researchers.

The LA-series small-block Chrysler engine is a powerful, efficient, and quick-revving engine that has dutifully powered millions of Chrysler/Dodge/Plymouth cars and trucks from 1964 to 2003. And it's also a power unit for many renowned Mopar muscle cars, including the Charger, Barracuda, Challenger, Dart, and others. The LA designates the small-block as "Lightweight A," which was a huge improvement over the previous Ageneration engine. With its compact size, 50-pound weight savings, thin-wall casting, and polyspherical heads, it cranked out a lot of torque and horsepower, which made it ideally suited for the street and a formidable opponent on the track. Although this venerable small-block has delivered impressive performance in stock trim, it can be easily modified to produce much greater power for almost any application. The LA was offered in 273-, 318-, 340- and 360-ci iterations, and a full range of aftermarket products are offered for these engines. Mopar engine expert and author Larry Shepard identifies the best parts and clearly guides you through the specific techniques to extract maximum performance from this platform. In particular, he delves into the heads, cams, and valvetrain products and modifications that will achieve your horsepower goals. In addition, he provides in-depth build-up instruction for other essential components: blocks, cranks, pistons, rods, ignition systems, intakes, carburetors, and exhaust. If you own an LA small-block–powered Mopar car or truck, this invaluable guidance and instruction will allow you to optimize performance and maintain reliability. Whether you're building an engine for street, street/strip, or racing, this vital information saves you save time, money, and delivers results. Add this to your Mopar library today!

Provides key updates to a must-have text on hydraulic control systems This fully updated, second edition offers students and professionals a reliable and comprehensive guide to the hows and whys of today's hydraulic control system fundamentals. Complete with insightful industry examples, it features the latest coverage of modeling and control systems with a widely accepted approach to systems design. The book also offers all new information on: advanced control topics; auxiliary components (reservoirs, accumulators, coolers, filters); hybrid transmissions; multi-circuit systems; and digital hydraulics. Chapters in Hydraulic Control Systems, 2nd Edition cover; fluid properties; fluid mechanics; dynamic systems and control; hydraulic valves, pumps, and actuators; auxiliary components; and both valve and pump controlled hydraulic systems. The book presents illustrative case studies throughout that highlight important topics and demonstrate how equations can be implemented and used in the real world. It also features end-of-chapter exercises to help facilitate learning. It is a powerful tool for developing a solid understanding of hydraulic control systems that will serve all practicing engineers in the field. Provides a useful review of fluid mechanics and system dynamics Offers thorough analysis of transient fluid flow forces within valves Adds all new information on: advanced control topics; auxiliary components; hybrid transmissions; multi-circuit systems; and digital hydraulics Discusses flow ripple for both gear pumps and axial piston pumps Presents updated analysis of the pump control problems associated with swash plate type machines Showcases a successful methodology for hydraulic system design Features reduced-order models and PID controllers showing control objectives of position, velocity, and effort Hydraulic Control Systems, 2nd Edition is an important book for undergraduate and first-year graduate students taking courses in fluid power. It is also an excellent resource for practicing engineers in the field of fluid power.

Hydraulic and Pneumatic Power for Production

Advanced Manufacturing Processes II

Leakage study of a mini-gear pump

Fundamental Concepts

Advances in Design, Simulation and Manufacturing IV

A Handbook

This book is intended to serve as a comprehensive reference on the design and development of diesel engines. It talks about combustion and gas exchange processes with important references to emissions and fuel consumption and descriptions of the design of various parts of an engine, its coolants and lubricants, and emission control and optimization techniques. Some of the topics covered are turbocharging and supercharging, noise and vibrational control, emission and combustion control, and the future of heavy duty diesel engines. This volume will be of interest to researchers and professionals working in this area.

The latest research on power transmission systems Power Transmission and Motion Control is a collection of papers showcased at the 2002 PTMC conference at the University of Bath. Representing the work of researchers and industry leaders from around the world, this book features the latest developments in power transmission media and systems, with an emphasis on pneumatic and hydraulic devices and systems. Insight into current projects on the forefront of technology and innovation provides an overview of the current state of the field while informing ongoing work and suggesting direction for future projects.

The main objective is intended to study the development of a prototype of a magnetic driven mini-gerotor pump.A secondary objective of this study will be to develop its design (geometry, parameters and components) that could allow to characterize it and also obtain information about the fluid-dynamic performance based on experimental work.

Design Tools Applied to a Trochoidal Gear Pump

Advances in Design, Simulation and Manufacturing V

How to Build Max Performance

Proceedings of the 4th International Conference on Design, Simulation, Manufacturing: The Innovation Exchange, DSMIE-2021, June 8 – 11, 2021, Lviv, Ukraine – Volume 2: Mechanical and Chemical Engineering

Selected Papers from the 2nd Grabchenko ' s International Conference on Advanced Manufacturing Processes (InterPartner-2020), September 8-11, 2020, Odessa, Ukraine

Proceedings of the 2nd International Conference on Design, Simulation, Manufacturing: The Innovation Exchange, DSMIE-2019, June 11-14, 2019, Lutsk, Ukraine

Hydrostatic Pumps and Motors

Issues in Engineering Research and Application: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Engineering Research and Application. The editors have built Issues in Engineering Research and Application: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Engineering Research and Application in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Engineering Research and Application: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

Hydraulic Engineering: Fundamental Concepts includes hydraulic processes with corresponding systems and devices. The hydraulic processes includes the fundamentals of fluid mechanics and pressurized pipe flow systems. This book illustrates the use of appropriate pipeline networks along with various devices like pumps, valves and turbines. The knowledge of these processes and devices is extended to design, analysis and implementation.

The current project is based on the industrial interest of AMES S.A. on expanding their market possibilities with trochoidal gears. These special gears are the mechanical system of a specific kind of positive displacement pumps called gerotor pumps. The company has been producing trochoidal gears exclusively for automotive field for decades, and this research is aimed to use the technical knowledge and experience acquired so far about designing and manufacturing these components, to develop a micro-trochoidal gear set with applications in different sectors. Therefore, the main objective is to design and manufacture a new micro gerotor unit from scratch, which will be analysed in an experimental work to prove the concept. The first block is a research of current situation and tendency of gerotors and the emerging applications, where the interest of this project has been justified and micro-trochoidal pumps have been revealed as a rising product. The technical development stage includes the design of the gears along with drawings with the support of GeroLAB, the definition and optimization of a specific manufacturing process, the prototyping of the components following the items set before and a metrology control of the most important parameters. Lastly, the experimental work carried out consist of measuring the volumetric flow and the efficiency of the prototypes manufactured with a test bench, and have validated the proof of concept presented. The volumetric results obtained during this first approach show values considerably good, and help to understand the parameters which affect the most to the performance.

This book presents the proceedings of the 4th International Conference of IFToMM ITALY (IFIT), held in Naples, Italy on September 7-9, 2022. It includes peer-reviewed papers on the latest advances in mechanism and machine science, discussing topics such as biomechanical engineering, computational kinematics, the history of mechanism and machine science, gearing and transmissions, multi-body dynamics, robotics and mechatronics, the dynamics of machinery, tribology, vibrations, rotor dynamics and vehicle dynamics. A valuable, up-to-date resource, it offers an essential overview of the subject for scientists and practitioners alike, and will inspire further investigations and research. .

Issues in Engineering Research and Application: 2011 Edition

Advances in Hydraulic and Pneumatic Drives and Control 2020

Principles, Design, Performance, Modelling, Analysis, Control and Testing

Hydraulic Control Systems

Proceedings of the 3rd International Conference on Design, Simulation, Manufacturing: The Innovation Exchange, DSMIE-2020, June 9-12, 2020, Kharkiv, Ukraine – Volume 2: Mechanical and Chemical Engineering

Proceedings of 2nd International Conference on Intelligent Computing and Applications

Positive displacements pumps, as currently designed, produce significant flow pulsations that result in pressure pulsations. These pulsations contribute to the global noise generated by the installation. Moreover, they interact with the system where the pump is

connected shortening the life of both the pump and circuit components. Rotary trochoidal gear pump, a type of rotary positive displacement machine, has characteristics that make it suitable for many applications fields. Nowadays, in cases like additivation and dosage, these applications have not been completely developed, and present a growing potential in the industrial world, such as in new diesel engines generation or in medical applications. The thesis presents a set of design tools applied to trochoidal gear pumps, from the viewpoint of the fluid dynamical performance of the pump. These design tools are aimed to help improving two of the main performance indices of the pump: the volumetric capacity and the flow irregularity, leading the designer to more efficient new designs of gerotor pumps. On the one hand, the volumetric capacity is related with the pump's efficiency, and increases in this particular index result in a higher efficiency of the pump. On the other hand, flow irregularity measures de flow ripple generated by the pump, and by reducing this index, the life of both the pump and the installation can be extended, as phenomena like fatigue are attenuated. This is achieved through the use of analytical, simulation and experimental procedures. From the analytical side, two new modules of GeroLAB Package are created, Minimum Clearance Module and Effective Port Areas. Also, a dynamical simulation through BondGraph is conducted, studying the influence of the port areas geometry. In the present thesis, the model has been improved by adding the information of the effective port areas, thus making it more realistic. Regarding the numerical simulation, a three-dimensional with deforming mesh Computational Fluid Dynamics model is presented. The model includes the effects of the manufacturing tolerance and the leakage inside the pump. Also, the influence of simulating the contact points is studied. A new boundary condition is created for the simulation of the solid contact in the interteeth radial clearance, established as a fluid-dynamic condition. The experimental study of the pump is carried out by means of Time-Resolved Particle Image Velocimetry. This technique is developed in order to adapt it to the gerotor pump, and measurements are captures in the outlet pipe and in the chambers between trochoidal profiles. Results are qualitatively evaluated thanks to the analytical and simulation tools. The presented experimental procedure meets the need of a methodology to directly measure the flow ripple generated by the pump, with a non-intrusive technique. It constitutes an alternative to the Secondary Source Method, and it is the first approach of Time-Resolved Particle Image Velocimetry applied to a trochoidal gear pump, according to the author's knowledge.

This book reports on topics at the interface between manufacturing, mechanical and chemical engineering. It gives special emphasis to CAD/CAE systems, information management systems, advanced numerical simulation methods and computational modeling techniques, and their use in product design, industrial process optimization and in the study of the properties of solids, structures, and fluids. Control theory, ICT for engineering education as well as ecological design, and food technologies are also among the topics discussed in the book. Based on the 2nd International Conference on Design, Simulation, Manufacturing: The Innovation Exchange (DSMIE-2019), held on June 11-14, 2019, in Lutsk, Ukraine, the book provides academics and professionals with a timely overview and extensive information on trends and technologies behind current and future developments of Industry 4.0, innovative design and renewable energy generation.

This book reports on topics at the interface between mechanical and chemical engineering, emphasizing aspects related to design, simulation, and manufacturing. It covers recent findings concerning the mechanics of fluids, solids, and structures, and numerical and computational methods for solving coupled problems in manufacturing. Further, it reports on recent developments in chemical process technology, heat and mass transfer research, and energy-efficient technologies, describing applications in the food and energy production sector. Based on the 5th International Conference on Design, Simulation, Manufacturing: The Innovation Exchange (DSMIE-2022), held on June 7-10, 2022, in Poznan, Poland, this second volume of a 2-volume set provides academics and professionals with extensive information on trends and technologies, and challenges and practice-oriented experience in all the above-mentioned areas.

The technology of mini components has an enormous potential in the industrial world, from the new generation of diesel engines until the dosing medical and pharmaceutical systems. Although a conventional size component exists and it has good performance characteristics, in small scales, the current knowledge, design criteria and know-how used in conventional sizes become questionable. Due to its principle of operation and the continuous variation of chambers of fluid, strong unsteady effects including leakage are observed in a greater pump . The flow analysis helps to qualify the design of the pump and to assess the quality of numerical simulations, data concerning the volumetric characteristics, the leakage and fluid-dynamic performance. The main tasks will be: - State of the art of mini-gear pumps - Theoretical study of the leakage in a gerotor pump - Study of the different available geometries of mini-gerotor pump - Theoretical approach to the leakage in a mini-gerotor pump - Dynamical simulation of the volumetric characteristics of a mini-gerotor pump - Results analysis.

The Mopar Six-Pack Engine Handbook HP1528

Selected Papers from the 4th Grabchenko’s International Conference on Advanced Manufacturing Processes (InterPartner-2022), September 6-9, 2022, Odessa, Ukraine

Study of a Prototype of a Mini-gerotor Pump

Digital Twins in Industry

Design and Performance

Machine Design

This book illustrates numerical simulation of fluid power systems by LMS Amesim Platform covering hydrostatic transmissions, electro hydraulic servo valves, hydraulic servomechanisms for aerospace engineering, speed governors for power machines, fuel injection systems, and automotive servo systems.

Digital Twins in Industry is a compilation of works by authors with specific emphasis on industrial applications. Much of the research on digital twins has been conducted by the academia in both theoretical considerations and laboratory-based prototypes. Industry, while taking the lead on larger scale implementations of Digital Twins (DT) using sophisticated software, is concentrating on dedicated solutions that are not within the reach of the average-sized industries. This book covers 11 chapters of various implementations of DT. It provides an insight for companies who are contemplating the adaption of the DT technology, as well as researchers and senior students in exploring the potential of DT and its associated technologies.

Second International Conference on Intelligent Computing and Applications was the annual research conference aimed to bring together researchers around the world to exchange research results and address open issues in all aspects of Intelligent Computing and Applications. The main objective of the second edition of the conference for the scientists, scholars, engineers and students from the academia and the industry is to present ongoing research activities and hence to foster research relations between the Universities and the Industry. The theme of the conference unified the picture of contemporary intelligent computing techniques as an integral concept that highlights the trends in computational intelligence and bridges theoretical research concepts with applications. The conference covered vital issues ranging from intelligent computing, soft computing, and communication to machine learning, industrial automation, process technology and robotics. This conference also provided variety of opportunities for the delegates to exchange ideas, applications and experiences, to establish research relations and to find global partners for future collaboration.

The first point of reference for design engineers, hydraulic technicians, chief engineers, plant engineers, and anyone concerned with the selection, installation, operation or maintenance of hydraulic equipment. The hydraulic industry has seen many changes over recent years and numerous new techniques, components and methods have been introduced. The ninth edition of the Hydraulic Handbook incorporates all these developments to provide a crucial reference manual for practical and technical guidance.

Design, Simulation, Fabrication and Testing of a Low-speed High-torque (LSHT) Pump/motor for a Hydrostatic Vehicle

Hydraulic Engineering

Design News

Proceedings of the 14th International Scientific Conference: Computer Aided Engineering

Fluid Power Circuits and Controls

Contractors & Engineers Magazine